

WHAT IS CLAIMED IS:

1. A method of interfacing with a switching system, comprising:
transmitting a Telecommunication Management Network (TMN) operator command from a TMN agent to a Man-Machine Interface (MMI) block, using an MMI input packet;
transmitting a result of the TMN operator command, processed by an application block, from the MMI block to the TMN agent, using an MMI output packet;
transmitting an MMI operator command from an MMI to the MMI block, using the MMI input packet; and
transmitting a result of the MMI operator command, processed by the application block, from the MMI block to the MMI, using the MMI output packet.

2. The method of claim 1, wherein the MMI input packet comprises:

a command number indicating a number of an input command;
an input port number identifying an input port;
a job ID identifying the input command; and
a signal ID indicating an inherent signal number of the input command.

3. The method of claim 2, wherein the MMI input packet further comprises:

a data type that indicates a type of data;
an operation type that indicates a type of operation;

a processor ID that identifies a processor to process the input command; and
a process ID that identifies a process in the MMI block.

4. The method of claim 1, wherein the MMI output packet comprises:

a data number that indicates a sequence number of output data;

an input port number that identifies an input port;

a job ID that identifies an input command;

a message type that identifies a type of message; and

a flag that identifies a message operation.

5. The method of claim 4, wherein the MMI output packet further comprises:

a data type that indicates a type of data;

an operation type that indicates a type of operation;

an ack_time that indicates a time-out period until a next message's arrival;

a unit identifier that indicates a unit of the ack_time;

an output date and time that indicates a time when the message is outputted; and

a process ID that identifies a process in the MMI block.

6. The method of claim 1, further comprising:

transmitting the TMN operator command received through the MMI input packet to the
application block; and

executing the received TMN operator command in the application block and then transmitting the execution result of the TMN operator command to the MMI block.

7. The method of claim 1, further comprising:

transmitting the MMI operator command received through the MMI input packet to the application block; and

executing the received MMI operator command in the application block and then transmitting the execution result of the MMI operator command to the MMI block.

8. A method for interfacing with a switching system, comprising:

interfacing a Telecommunication Management Network (TMN) agent and a Man-Machine Interface (MMI) to an MMI block of the switching system through a single standardized interface; and

interfacing application blocks of the switching system to the TMN agent and the MMI through the MMI block.

9. The method of claim 8, further comprising:

transmitting a TMN operator command and an MMI operator command to the MMI block using an MMI input packet; and

receiving a TMN operator command execution result and an MMI operator command execution result from the MMI block using an MMI output packet.

10. The method of claim 8, further comprising:

transmitting to the application blocks a TMN operator command and an MMI operator command transmitted from the TMN agent and the MMI, respectively, using an MMI input packet; and

executing the TMN operator command and the MMI operator command in the application blocks and then transmitting the execution result to the MMI block.

11. The method of claim 9, wherein the MMI input packet comprises:

a command number that indicates a sequence number of an input command;

a data type that indicates a type of data;

an operation type that indicates a type of operation;

an input port number that identifies an input port;

a job ID that identifies the input command;

a signal ID that indicates an inherent signal number of the input command;

a processor ID that identifies a processor that is to process the input command; and

a process ID that identifies a process in the MMI block.

12. The method of claim 9, wherein the MMI output packet comprises:

a data number that indicates a sequence number of output data;

a data type that indicates a type of data;

an operation type that indicates a type of operation;

an input port number that identifies an input port;
a job ID that identifies an input command;
a message type that identifies a type of message;
a flag that identifies a message operation;
an ack_time that indicates a time-out period until a next message's arrival;
a unit identifier indicates a unit of the ack_time;
an output date and time that indicates a time when the message is outputted; and
a process ID that identifies a process in the MMI block.

13. A method for interfacing a switching system, comprising:

receiving a Telecommunication Management Network (TMN) operator command and Man-Machine Interface (MMI) operator command from a TMN agent and a MMI, respectively, using an MMI input packet;

transmitting the received TMN operator command and the received MMI operator command from an MMI block to application blocks of the switching system; and

at least one of:

executing the received TMN operator command and the received MMI operator command in the application blocks and transmitting a TMN operator command execution result and an MMI operator command execution result to the MMI block, and

transmitting the TMN operator command execution result and the MMI operator command execution result received from the application blocks to the TMN agent and the MMI using an MMI output packet.

14. The method of claim 13, wherein the MMI input packet comprises:

- a command number that indicates a sequence number of an input command;
- a data type that indicates a type of data;
- an operation type that indicates a type of operation;
- an input port number that identifies an input port;
- a job ID that identifies the input command;
- a signal ID that indicates an inherent signal number of the input command;
- a processor ID that identifies a processor that is to execute the input command; and
- a process ID that identifies a process within the MMI block.

15. The method of claim 13, wherein the MMI output packet comprises:

- a data number that indicates a sequence number of data;
- a data type that indicates a type of the data;
- an operation type that indicates a type of operation;
- an input port number that identifies an input port;
- a job ID that identifies an input command;
- a message type that identifies a type of message;

a flag that identifies a message operation;
an ack_time that indicates a time-out period until a next message's arrival;
a unit identifier that indicates a unit of the ack_time;
an output time that indicates a time when the message is outputted; and
a process ID that identifies a process within the MMI block.

16. A data structure for communicating information from a Man-Machine Interface (MMI) to an MMI block of a switching system and from a Telecommunication Management Network (TMN) agent to the MMI block via the MMI, comprising:

a command number that identifies a sequence number of an input command;
an input port number that identifies an input port;
a job identifier that identifies the input command; and
a signal identifier that indicates a signal number of the input command.

17. The data structure of claim 16, further comprising:

a data type that indicates a type of data contained within the data structure;
an operation type that indicates a type of operation to be performed by the switching system;
a processor identifier that identifies a processor of the switching system that is to process the input command; and
a process identifier that identifies a process to be performed by the switching system.

18. A data structure for communicating information from a Man-Machine Interface (MMI) block of a switching system to an MMI and from the MMI block to a Telecommunication Management Network (TMN) agent via the MMI, comprising:

- a data number that identifies a sequence number of output data;
- an input port number that identifies an input port;
- a job identifier that identifies an input command;
- a message type that identifies a type of message contained in the data structure; and
- a flag that identifies a message operation.

19. The data structure of claim 18, further comprising:

- a data type that indicates a type of data contained within the data structure;
- an operation type that indicates a type of operation performed by the switching system;
- an ack_time that indicates a time-out period for an arrival of a next message;
- a unit identifier that indicates a unit of the ack_time;
- an output date and time that indicates a time when the message is outputted; and
- a process identifier that identifies a process performed by the switching unit.

20. The method of claim 1, wherein:

- the TMN operator command is originated by a network management center and communicated to the TMN agent; and
- the MMI operator command is communicated to the MMI by an MMI operator.